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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MCDERMOTT WILL & EMERY  
600 13TH STREET, N.W.  
WASHINGTON, DC 20005-3096

EXAMINER

NGUYEN, THU V

ART UNIT PAPER NUMBER

3661

DATE MAILED: 12/14/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
08/748,935

Applicant(s)  
Imai et al

Examiner  
Thu Nguyen

Art Unit  
3661



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Sep 28, 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2, 3, 5, 9-22, 29, 34, 35, and 37-45 is/are pending in the application.
- 4a) Of the above, claim(s) 41-44 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-22 and 37 is/are allowed.
- 6) ☒ Claim(s) 2, 3, 5, 29, 34, 35, 38-40, and 45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 20) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 29, 2, 5, 34-35, 38-40, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (U.S Patent No. 5,754,680) (Sato '680).

As per claim 29, and 45, Sato '680 teaches a method of generating three-dimensional form data. The method comprises the steps of: obtaining an electronic data representing a three dimensional form model (col.5, lines 16-30); generating a plurality of lines along a surface of the three dimensional form model (col.5, lines 41-44);

Sato '680 does not explicitly disclose modifying the plurality of generated lines. However, in col.6, lines 1-4; and col.8, lines 53-61, Sato '680 discloses modifying patches on the model and reducing the number of nodal data, wherein the patches is defined by latitudinal and longitudinal lines. It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to adjust the lines defining a patch to change the size of the patch of Sato '680. The motivation for this would have been to obtain a smaller set of data as motivated by Sato '680 in col.8, lines 58-61.

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As per claim 2, 5, Sato '680 teaches expressing generated lines as parametric and spline curve group (col.5, lines 48-58).

As per claim 34, Sato '680 discloses generating a sum of data for representing modified lines with summary data smaller than the quantity of the obtained three dimensional form data (col.8, lines 53-61).

As per claim 35, Sato '680 discloses providing electronic data representing a three dimensional model from an electronic data generator (col.5, lines 16-19).

As per claim 38, Sato '680 discloses a method for processing an electronic data representing three dimensional model, the method comprises the steps of: receiving a first electronic data representing a three-dimensional model of an object (col.8, lines 35-43); generating a second electronic data which has quantity less than the first electronic data (col.8, lines 44-52); generating a third electronic data which has quantity less than the first electronic data (col.8, lines 53-61). Sato '680 does not explicitly disclose that the second and third electronic data represent the first and second portions of the model. However, it would have been obvious to an ordinary person skilled in the art to provide just a subset of data representing a portion of the three dimensional surface from the known first electronic data in order to present the user just a part of the model the user is interested in.

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As per claim 39, Sato '680 discloses generating the second and third data which are extracted from the first data (col.8, lines 44-61).

As per claim 40, Sato '680 does not explicitly disclose changing the positions of the first and second portions by changing the lines to be projected. However, Sato '680 discloses lines that makes patches and changing the patches to modify the set of data (col.8, lines 53-57; col.6, lines 1-4). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to change the patches of an area by adjusting the lines which define the patches in order to change the quantity of data.

3. Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato '680 in view of Letcher, Jr. (U.S Patent No. 5,627,949).

As per claim 3, Letcher teaches defining control points and moving control points along the surface of a model (col.16, lines 29-40). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the control point taught by Letcher to move the lines along the surface of the object of Sato '680. The motivation for this would have been to provide the user a convenient graphical user interface so that the user can adjust the lines of Sato '680 to obtain a desired amount of data he needs.

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*Allowable Subject Matter*

4. Claims 9-22 and 37 are allowed.

*Response to Arguments*

The restriction requirement set forth in the office action paper No. 27 (on July 03, 2001) in which claims 41-44 are withdrawn from consideration. Since applicant does not provide any comment on the restriction requirement, applicant is supposed to accept the restriction requirement without traverse.

5. Applicant's arguments filed on September 28, 2001 have been fully considered but they are not persuasive.

In response to applicant's argument on page 4, last paragraph, applicant argues that the generation of lines of Sato '680 is quite different from the generation of lines recited in claim 29. However, claim 29 does not actually show how the lines are generated. Claim 29 just claims "generating a plurality of lines along a three-dimensional surface", this limitation does not emphasize the difference between the lines of the present application with the longitudinal and the latitudinal lines of Sato '680. The scope of claim 29 is therefore encompasses the scope of Sato '680 teaching. Further, applicant argues that the steps S7 of Sato '680 means modification of the surface model, and that in claim 29, after the modification, the modified lines still represent the surface model. Note that claim 29 just claims that after the modification, the modified lines still

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represent the model, this claimed limitation suggests that the modified lines just represent (or to say in another way, just “suggest”) the shape of the model, the term “represent”, or “suggest”, a model does not necessarily means that the lines follow the shape of the model exactly.

Moreover, in Sato ‘680, in col.5, lines 23-30, Sato discloses obtaining nodal data that lies on the longitudinal and latitudinal lines, and on col.6, lines 18-27, Sato ‘680 teaches dividing the surface of the model by a plurality of longitudinal and latitudinal lines, since the longitudinal and the latitudinal lines are always obtained on the surface of the model, no matter how many longitudinal and latitudinal lines are to be formed on the surface model of Sato ‘680, the surface model are not changed, rather, the longitudinal and latitudinal lines always lies on the surface model. Therefore, moving a line, adding a line, or deleting a line, does not causes the other longitudinal and latitudinal lines to deviate from the surface of the model, since the remaining lines always lie on the surface of the model, *the lines always represent the model*. Further, in response to applicant’s argument on page 5, last paragraph, Sato ‘680 does not explicitly disclose adding or deleting lines. However, Sato ‘680 discloses adjusting the number of data points obtained on the longitudinal and latitudinal lines (col.8, lines 58-61), and that the data point are obtained on the longitudinal and latitudinal lines (col.8, lines 45-48, lines 54-57), it would have been obvious to add, to delete, or to move a line in order to adjust the number of data point as motivated by Sato ‘680 in col.8, lines 58-61.

In response to applicant’s argument on page 5, in claim 38, Sato teaches obtaining the longitudinal and latitudinal lines which is just a subset of the first data set (col.8, lines 3-5, lines

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9-12), then the second and the third data are expressed by the longitudinal and latitudinal lines (col.8, lines 44-48; lines 53-57), and the second and third data sets are just a subset of the first three dimensional data set (col.8, lines 49-52 and lines 58-61). The teaching of Sato '680 does not seem to imply two different models as argued by applicant in page 5, second paragraph. The teaching of Sato in col.8, lines 3-5, 9-12, 44-57 clearly teach the limitation of claim 38, and the second and third data set are clearly the data representing the model (since they are obtained from the longitudinal and latitudinal lines which represent the surface of the model), further, Sato '608 clearly teach that the second and third data represent the model (col.8, lines 45-46, lines 54-55). (Note the word "represent the model" in Sato '608). It is not clear why applicant asserts that the second model data of Sato modified the model. If the second and third model data modifies the model how could they represent the model as asserted by Sato '680 in col.8, lines 45-46 and lines 54-55? Further, claim 38 just claims that the second and third data set represent the model of the first data set, this claim language match exactly with the teaching of Sato 680 in col.8, lines 45-46 and 54-55.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**Any response to this final action should be mailed to:**

**Box AF**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 305-7687, (for formal communications; please mark "EXPEDITED PROCEDURE")

**Or:**

(703) 305-7687 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park V, 2451 Crystal Drive, Arlington, VA., Seventh Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for this Group is (703)305-7687 .

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-1113.

NTV

September 3, 2001



WILLIAM A. CUCHLINSKI, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600